

# Claims

- [c1] 1. A scanning device having a differential analog transmission pair, comprising:  
an image capture component board, including:  
an image capture component for receiving data in the form of optic signals, and transforming the optic signals into analog electric signals; and  
a differential output driver coupled to the image capture component for transforming the analog electric signals into differential mode and outputting a differential analog electric signal; and  
a main board coupled to the image capture component board, including:  
a differential input receiver for receiving the differential analog electric signal, and restoring the differential analog electric signal back to the analog electric signal.
- [c2] 2. The scanning device of claim 1, wherein the differential analog signal includes a non-phase reversal analog signal and a phase reversal signal.
- [c3] 3. The scanning device of claim 1, wherein the main board further includes:  
an analog front coupled to the differential input receiver

for transforming the analog electric signal into an analog front electric signal; and  
an A/D converter coupled to the analog front for converting the analog front electric signal into a digital signal and outputting the digital signal.

[c4] 4. The scanning device of claim 1, wherein the main-board further includes a clock signal generator for generating a plurality of clock signals to the image capture component for driving the same.

[c5] 5. The scanning device of claim 1, wherein the image capture component includes a charge coupled device.

[c6] 6. The scanning device of claim 1, wherein the image capture component includes a contact image sensor.

[c7] 7. The scanning device of claim 1, wherein the image capture component includes a CMOS device.

[c8] 8. A method for using a differential pair in a scanner, comprising the steps of:  
receiving an optic signal representing scanned data, and transforming the same into analog electric signals;  
transforming the analog electric signals into differential analog electric signals; and  
receiving the differential analog electric signals, and restoring the same back into analog electric signals.

- [c9] 9. The method of claim 8 further comprising:  
transforming the analog electric signal into an analog front electric signal; and  
converting the analog front electric signal into a digital signal using an analog to digital converter.
- [c10] 10. The method of claim 8, wherein the differential analog signal includes a non-phase reversal analog signal and a phase reversal signal.
- [c11] 11. The method of claim 10, wherein the non-phase reversal analog signal and the phase reversal signal have phase reversing relationships with each other.
- [c12] 12. The method of claim 10, wherein the non-phase reversal analog signal is in-phase with the phase reversal signal, and the non-phase reversal analog signal has an electric potential equal to the analog electric signal's electric potential plus a bias electric potential.
- [c13] 13. The method of claim 10, wherein the phase reversal analog signal is in-phase with the phase reversal signal, and the non-phase reversal analog signal has an electric potential equal to the analog electric signal's electric potential minus a bias electric potential.